REMARKS

Claims 1 and 3-21 appear in this application for the Examiner's review and consideration. Claims 1 and 15 were amended to recite that the hardness is measured on the golf ball and the golf ball has a coefficient of restitution in the range of about 0.795 to about 0.815. Claim 2 has been cancelled. No new matter was added by these amendments.

Rejection Over Nesbitt In View of Egashira *et al.*

Claims 1-21 were rejected under 35 U.S.C. § 103(a) as being obvious over Nesbitt in view of Egashira *et al.*

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation to modify the reference or combine the teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must be found in the prior art, not in Applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 493, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991).

Nesbitt and Egashira do not disclose, or even suggest, all claim limitations set forth in independent claims 1, 15, and 18 of the present invention. Contrary to the Examiner's statement on page 2 of the Office Action, Nesbitt does not disclose or suggest highly-neutralized ethylene copolymers, let alone their use in a first cover layer, as recited in claim 1. The Examiner appears to be confusing *high-acid* ionomers (*i.e.,* ionomers containing greater than 16% by weight of a carboxylic acid) with the *highly-neutralized* ethylene copolymers of the present invention (ionomers containing an acid group that has been highly neutralized (100%) by an *organic fatty acid or a salt, a cation source, or a suitable base of the organic fatty acid*). The highly-neutralized materials are set forth in the Specification at page 9, lines 7-10, and are incorporated by reference to WO 01/29219 issued to DuPont. Nesbitt fails to disclose or suggest neutralizing ethylene copolymers to this extent, in this manner.

Additionally, Nesbitt fails to disclose or suggest the golf ball recited in claims 1, 15, and 18 of the present invention *having a core compression of about 30 to 60* (claims 1 and 15) *and 50 to 55* (claim 18). The core compressions listed in Nebitt's Tables are for completely different golf balls

than those of Applicant, having ionomer covers and containing no salt of a halogenated thiophenol. They are not relevant to Applicant's core and golf ball elements.

Egashira does not cure the deficiencies of Nesbitt. For the same reasons set forth above, even the combination of Egashira and Nesbitt still fails to disclose, or even suggest, all claim limitations set forth in independent claims 1, 15, and 18 of the present invention. Moreover, one of ordinary skill in the art, reading Nesbitt, would have absolutely no motivation, other than by reading Applicant's claims, to look to Egashira.

Nesbitt, on its own, discloses a specific core blend of two polybutadienes in an effort to solve particular processing problems allegedly associated with conventional rubber compositions. The Examiner relies on the text at the bottom of column 23 of Nesbitt to provide the alleged motivation for one of ordinary skill in the art to look to Egashira for the salt of a halogenated thiophenol missing from Nesbitt. Nesbitt states generally that "one or more optional modifying agents, fillers, moldability additives, and dispersing agents [may be added], *all of which are described in greater detail below*" (emphasis added). Unfortunately, Nesbitt never discusses, discloses, or recognizes anywhere in the patent the importance of the use of the salt of a halogenated thiophenol in core blends. Egashira also discusses adding fillers, plasticizers, antioxidants, and other additives, (effectively the same items listed by Nesbitt*) in addition to* (*i.e.*, distinguishes from) the organic sulfur compound. Nesbitt and Egashira agree that something else may be added to the core blends but without Applicant's claims as a template, that something extra just isn't the salt of a halogenated thiophenol.

It is also well held that a *prima facie* case of obviousness can be rebutted if Applicant can show that the cited reference when a person of ordinary skill in the art, upon reading the reference, would be led in a direction divergent from the path that was taken by Applicant. *Tec Air, Inc. v. Denso Mfg. Mich. Inc.*, 192 F.3d 1353, 1360, 52 U.S.P.Q.2d 1294, 1298 (Fed. Cir. 1999). Nesbitt describes a core blend of two polybutadienes having higher and lower Mooney viscosities to aid in solving processing problems and having increased resilience (See column 23, lines 35-43). Nesbitt relies on a harder inner cover layer (greater than 60 Shore D, preferably greater than 65 Shore D) to add velocity to the resultant golf ball. This is not Applicant's invention, which relies on the salt of a halogenated thiophenol to provide increased resilience and velocity without the need for a harder inner cover layer.

Moreover, one of ordinary skill in the art would be well aware that the hardness of a golf ball layer measured *on the golf ball* can be very different from that measured on the material itself

(material hardness, ASTM D-2240D). The Examiner relies on Nesbitt's minute overlap of hardness values for an inner cover layer to equate that of Applicant. In fact, closer inspection reveals that the hardness values that match Nesbitt's requirements for inner cover hardness in Table 1 are simply properties of the ionomeric material itself and not properties of the inner cover layer as formed. Hardness as measured on the golf ball will be higher than the material hardness – therefore the hardness values for the Iotek materials listed by Nesbitt will typically be 5-10 points higher if they were to be measured as a layer on a golf ball. On the contrary, one of ordinary skill in the art would be well aware that the highly-neutralized ionomers of Applicant's invention have a material hardness of about 45-55 Shore D (resulting in a hardness as measured on the ball of less than about 65 Shore D). Applicant has enclosed a technical data sheet from DuPont as an example of such materials.

For at least the above reasons, the Examiner has failed to establish a *prima facie* case of obviousness and the rejection under 35 U.S.C. § 103(a) is believed to have been overcome. Applicants respectfully request reconsideration and withdrawal thereof.

CONCLUSION

Based on the remarks set forth above, Applicants believe that all of the rejections have been overcome and the claims of the subject application are in condition for allowance. Should the Examiner have any further concerns or believe that a discussion with the Applicants' attorney would further the prosecution of this application, the Examiner is encouraged to call the attorney at the number below.

No fee is believed to be due for this submission. Should any other required fees be due, however, please charge them to Acushnet Company Deposit Account No. 502309.

Respectfully submitted,

Date: June 4, 2004

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DuPont The miracles of science

DuPont™ HPF 1000

polymer

Technical Information

Preliminary Data

For Golf Ball Applications

DuPont™ HPF 1000 is based on a new technology platform. It is extremely versatile and can be used to manufacture all layers of the golf ball. DuPont™ HPF 1000 offers a combination of high resilience and low compression never before available. This polymer is a highly amorphous material.

Properties of DuPont™ HPF 1000

Resin Property	Typical Value	Test Method
General		
Cation Type	Magnesium	--
Melt Flow Index, g/10 min	0.65	ASTM D1238 (230°C/2.16 kg)
Density, g/cc	0.96	ASTM D1003
Mechanical		
Tensile Strength, MPa (kpsi)	18 (2.6)	ASTM D638
Elongation, %	430	ASTM D638
Shore D Hardness	52	ASTM D2240D
Flex Modulus, MPa (kpsi)	220 (31)	ASTM D790
Thermal		
Vicat Softening Point, °C (°F)	59 (137)	ASTM D1525

Processing Conditions

Drying

DuPont™ HPF 1000 is shipped dry, (<1000 ppm moisture), in moisture-resistant bags or in moisture-resistant liners in boxes, and can be used as received. However, DuPont™ HPF 1000 does absorb moisture from the air, and should be kept sealed in a moisture-resistant container whenever possible. DuPont™ HPF 1000 may be dried using regenerative-type desiccant bed dryers capable of producing dry air with a dew point of -20 to -40ºC (-4 to -40ºF). Typical drying conditions for this magnesium ion grade are 24 hours at a temperature below 50ºC (122ºF). If moisture levels have reached greater than 2000 ppm, it may be necessary to employ vacuum as well as heat to remove moisture.

Processing

This material is readily processible in conventional molding equipment. Typical melt temperatures for injection molding are 410°F – 500°F.

Safety

DuPont™ HPF polymers as supplied by DuPont are not considered hazardous materials. As with any hot material, care should be taken to protect the hands and other exposed parts of the body when handling molten polymer. At recommended processing temperatures, small amounts of fumes may evolve from the resins. When resins are overheated, more extensive decomposition may occur. Adequate ventilation should be provided to remove the fumes from the work area. Disposal of scrap presents no special problems and can be by landfill or incineration in a properly operated incinerator. Disposal should comply with local, state, and federal regulations. Resin pellets can be a slipping hazard. Loose pellets should be swept up promptly to prevent falls.

For more detailed information on the safe handling and disposal of DuPont resins, a Product Bulletin and OSHA Material Safety Data Sheet can be obtained from the DuPont Packaging and Industrial Polymers sales office serving you.